

COUPLING STRUCTURE MOUNTABLE TO A ROTATABLE SHAFT

Abstract

A coupling structure capable of being removed in an undamaged condition from a rotatable shaft. The coupling structure includes a metallic insert and a polymer hub surrounding the metallic insert. The metallic insert features a sleeve and a flange at the leading edge of the sleeve remote from the opening into which the shaft is inserted. Forces applied to the flange are preferentially transferred to the metallic insert such that the polymer hub remains substantially stress-free. The coupling structure may be incorporated into a torsional vibration damper that further includes an inertia member encircling the polymer hub and an elastomer layer situated between the inertia member and the polymer hub. The coupling structure permits the torsional vibration damper to be removed undamaged from a crankshaft.